CLAIMS

We claim:

1,339	ι ^{1.}	Amethod for analyzing a query and generating related results comprising:
2 \$1		determining a keyword associated with the query;
3		generating at least one term related to at least one keyword;
4		supplying the keywords and terms to a data mining routine; and
5		generating a least one related result to the query.
1	2.	The method of claim 1, wherein the determining step comprises polling a database for
2	terms	related to at least one keyword.
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3.	The method of claim 1, wherein the query comprises a plurality of keywords and a
2 == .	plural	ity of generated terms.
1 1	4.	The method of claim 3, further comprising:
2 <u>5</u> 1		selecting at least one generated term; and
3 ===		supplying the keywords and the selected terms to the data mining routine.
<u>.</u>		
⊭ ₌⊾ 1	5.	A method comprising the steps of:
2		constructing a query comprising keywords and constraints;
3		generating related keyword and/or related constraints;
4		supplying the keywords, the constraints, the related keywords and/or the related
5	constr	raints to a data mining routine; and
6		obtaining "as is" results and/or information, related results and/or information and a
7	questi	on related to the query adapted to enhance query results and/or information.

The method of claim 5, further comprising the steps of:

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2		selecting the question; and
3		obtaining "as is" results and/or information, related results and/or information and a
4	sub-q	uestion related to the question adapted to enhance query results and/or information.
1	7.	The method of claim 5, further comprising the steps of:
2		selecting the question;
3		obtaining "as is" results and/or information, related results and/or information and a
4	sub-q	uestion related to the question adapted to enhance query results and/or information;
5		selecting the sub-question;
6		obtaining "as is" results and/or information, related results and/or information and a
7	sub-q	uestion related to the question adapted to enhance query results and/or information to
	form	a query-by-question path.
1	8.	The method of claim 7, further comprising the step of:
2 5 7		repeating the selecting sub-question step and obtaining step.
C j 1 <u>u</u> j	9.	The method of claim 3, wherein the constraints are selected from the group consisting
2 <mark>54</mark>	of co	ntainment constraints, grouping constraints, connector constraints, data constraints and
1	mixtu	ares and combinations thereof.
1	10.	A method comprising:
2		constructing a query;
3		extracting keywords and constraints from the query;
4		generating related keywords and/or related constraints;
5		supplying the keywords, the constraints, the related keywords and/or the related
6	const	raints to a data mining routine; and
7		obtaining "as is" results and/or information, related results and/or information and a
8	quest	ion related to the query adapted to enhance query results and/or information.

1	11.	The method of claim 10, further comprising the steps of:		
2		selecting the question; and		
3		obtaining "as is" results and/or information, related results and/or information and a		
4	sub-q	uestion related to the question adapted to enhance query results and/or information.		
1	12.	The method of claim 10, further comprising the steps of:		
2		selecting the question;		
3		obtaining "as is" results and/or information, related results and/or information and a		
4	sub-q	uestion related to the question adapted to enhance query results and/or information;		
5		selecting the sub-question;		
61		obtaining "as is" results and/or information, related results and/or information and a		
7 <u>0</u> 1	sub-q	sub-question related to the question adapted to enhance query results and/or information t		
6 7 8 8 1 1	form	form a query-by-question path.		
의 1 =	13.	The method of claim 12, further comprising the step of:		
		repeating the selecting sub-question step and obtaining step.		
1=1	14.	The method of claim 10, wherein the constraints are selected from the group		
2	consi	consisting of containment constraints, grouping constraints, connector constraints, dat		
3	const	raints and mixtures and combinations thereof.		
1	. 15.	A system comprising:		
2		a remote digital processing unit including an operating system, communication		
3	routir	routines, and a user interface having a query construction routine and a results displa		
4	routir	ne;		
5		an application server including an operating system, communication routines, and a		

query information retrieval content enhancing sub-system having a controller, a library of

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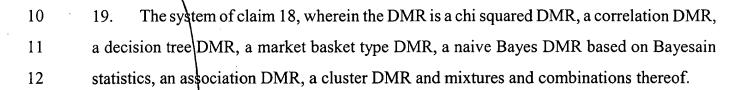
database interfaces, a library of data mining routines, a user profiler, a DB middleware
component and a query/results database, where the subsystem generates related results and/or
information and questions related to the query to enhance information retrieval from a query
constructed at the remote digital processing unit;
a database server including an operating system, communication routines, a database
and database services; and
a network interconnecting the remote digital processing unit, the application server
and the database server.
16. The system of claim 15, wherein the data mining library includes a chi squared DMR,
a correlation DMR, a decision tree DMR, a market basket type DMR, a naive Bayes DMR
based on Bayesain statistics, an association DMR, a cluster DMR, or mixtures or
combinations thereof.
17. The system of claim 15, wherein the database is selected from the group of
multidimensional databases, relational database, hierarchical databases and mixtures and
combinations thereof.
18. A query information retrieval content enhancing system comprising:
a controller,
a library of database interfaces,
a library of data mining routines,
a user profiler,
a middleware interface and
a query/results database,
where the system generates "as is" results and/or information, related results and/or
information and questions related to a query to enhance information retrieval from the query.

3 (3) 4 (4) 1 (5) 2 (8)

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20. The system of claim 18, wherein the middleware interface is selected from the group of multidimensional database middleware interface, relational database middleware interface, hierarchical database middleware interface and mixtures and combinations thereof.